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NOVEMBER, 1913





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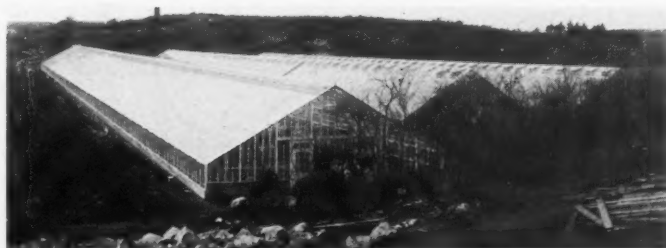
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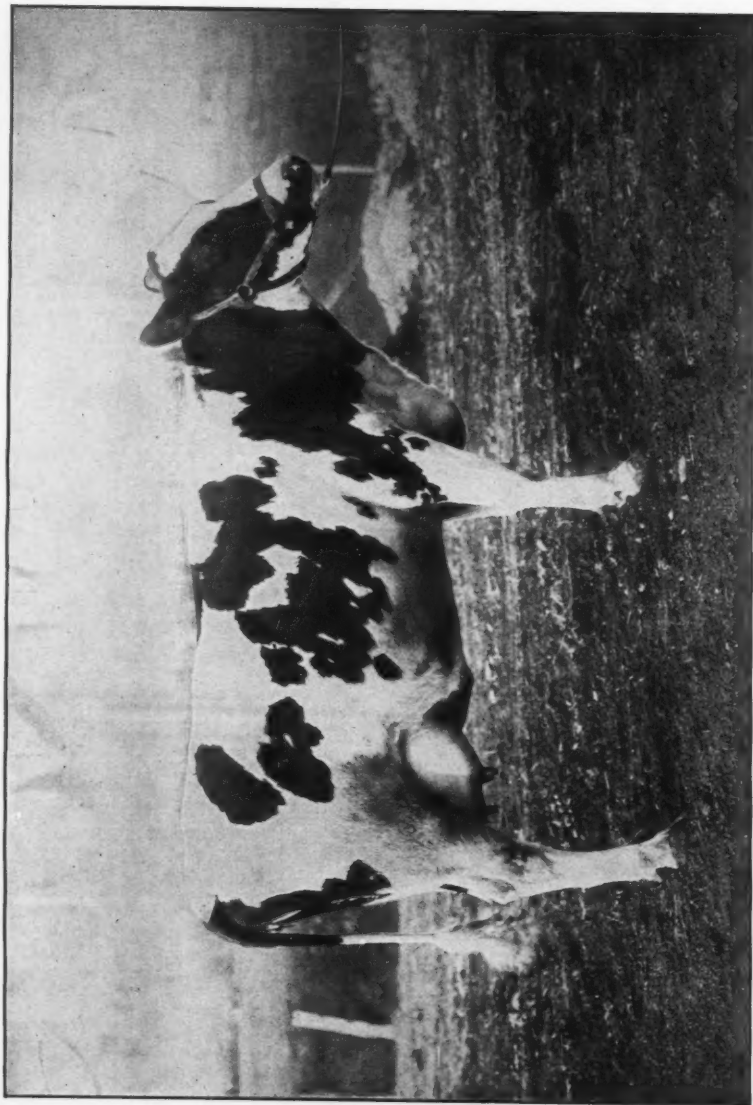
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The Cornell Countryman

Vol. 11

NOVEMBER, 1913

No. 2

EARLY RESULTS OF A COÖPERATIVE ORGANIZATION OF POULTRY AND EGG PRODUCERS IN NEW YORK STATE

By Earl W. Benjamin

Cornell University, Ithaca, N. Y.

THE Poultry Producers' Association of Ithaca, N. Y., is an organization of the farmers for the purpose of increasing their profits from the production of their poultry products. The operations of this Association were really started about March 15, 1913, although the plan had been under careful discussion for a considerable time previous and a definite organization was not affected until about two months later.

While the writer was engaged in some Poultry Farm Survey work under the supervision of Professor Rice and later while making various studies of the present methods of handling the products in the large eastern markets, he was impressed with the great loss due to inefficient organization of the marketing agencies lying between the producer and the consumer. Our present systems of buying and selling in the United States seemed to be for the most part the old methods of barter and trade, slightly modified to serve the more stringent modern requirements of our pure food laws, expanded to handle many times more products, diversified to serve a greater variety of twentieth century tastes, and further complicated, thus allowing the maintenance of several times more

marketmen than are needed for the efficient handling of our products. These conditions were especially noted in New York State considering New York City as the principal market for the farm products, but this same condition holds true in about every other part of the United States.

By spending quite a bit of time upon the New York, Boston, and Philadelphia markets and personally visiting many different types of marketmen or buyers, one is bound to be impressed with the complexity of the problem. After a general consideration of all the information it seemed apparent that the most immediate relief could be afforded to the farmer by helping him to get in touch with a trade whereby his products would be handled the least possible number of times before being delivered to the final customer. This might be a wholesale dealer who has a special trade, a retail store, a hotel, restaurant, private family, or even a commission man would be an improvement over the present method by which the farmers sell their eggs and poultry to country peddlers. Upon several occasions the writer had an opportunity to aid poultrymen in locating hotels, restaurants

or other desirable trades whereby much of the customary handling of their products was avoided.

Just as soon as we began to consider the farmer sending his eggs direct to some desirable trade we realized one fundamental reason for the present methods of their selling their eggs to country peddlers. The average farmer in New York has only 35 to 50 hens and this number is inadequate to pay him to take much trouble in selling his eggs, especially when no more is paid in the local markets for good eggs

EARLY DEVELOPMENT

It was, therefore, decided that the Poultry Department of the New York State College of Agriculture should develop an organization at Ithaca, N. Y. with the purposes mentioned, and that so far as possible, this organization should serve as a clear example of the possibilities in many other parts of the state. It was thought that the unit of organization should be an area within driving distance of the shipping points. This would make it convenient for the farmers to bring in



INTERIOR OF THE EGG SALES ROOM OF THE POULTRY DEPARTMENT. THE EGGS FROM THE PATRONS OF THE POULTRY PRODUCER'S ASSOCIATION ARE HANDLED HERE.

than is paid for poor ones. The farmer may not have any eggs at all during certain seasons. These conditions unfit him for dealing individually with any of the above mentioned desirable trades.

The next question was, how could we get several farmers, a whole community, if you please, to combine so that enough eggs could be supplied during the period of scarcity to hold the trade and to make such a desirable supply during this fall and winter period, that the customers would be willing to inconvenience themselves by accepting more eggs during the spring and summer months? So the idea of coöperation took root.

their products when they came to the village to do their week's trading. Interest in the organization was started by sending notices of meetings to the local papers and to the local granges. At these meetings talks were given by different members of the Poultry Department Staff and by outside speakers who told of other coöperative organizations and cited the probable reasons for the successes or failures. One interesting talk with the discussion which always followed, proved to be enough for each meeting. Many different subjects were discussed such as the organization among the Western Grain Producers, the Fruit Growers Associations, the European Methods

of Coöperation, etc. The meetings were at first held at intervals of two weeks and while the attendance was small because of so much work to be done on the farms during the spring months, everyone present was vitally interested and some very valuable discussions took place.

After the first meeting it was announced that eggs would be received at the Poultry Building from anyone who cared to bring them in. These eggs were brought to the egg room of the New Poultry Building where there were facilities for grading, candling, and packing. The work was done by one person who understood the work and who was able to look after the coöperative products as well as the University Poultry Farm products. This served as quite an economy during the early stages of the organization.

These eggs were at first sent to a single wholesale house and this house gave us one cent per dozen above top quotations net. This was a very good price for the wholesale trade and all went very well until our supply of eggs increased considerably and the wholesale house began to lower their returns because eggs were becoming more plentiful, and they thought that they had the Association trade anyway. This occurrence made it necessary for a representative to go personally to New York and investigate every possible outlet for the continually increasing supply of eggs. This trip was made in April which is the hardest time of the year in which to contract new outlets for eggs, but after following up at least 25 special references to stewards or managers of the most desirable hotels, restaurants or large retail agencies the salesman obtained permission to send samples and await orders from several of the hotels. As a result of this an outlet was obtained for several cases of fancy eggs per week as well as all the fowls or broilers that could be produced.

The fancy eggs as well as the fowls and broilers were sold at a consider-

able premium above the top wholesale quotations. All bills were to be paid monthly and two per cent was allowed for payment within ten days of date of bill. We were unable to obtain at this season of the year satisfactory arrangements with any of the large retail distributors or any of the wholesale houses. They were all suspicious and would not pay special prices for eggs during the spring when they could not be sure of getting them during the coming winter.

A special deposit was made of the Coöperative Association funds and the coöperative work was made to pay its own way from the start. The association was granted whatever services which regular members of the Poultry Department gave in the way of planning and general organization of the work, but all extra help, postage, paper, etc., was properly charged against the products handled.

At the end of the first month's business it was found that about \$3000 worth of products had been handled and that the interest had been continually increasing. We now saw the need of having a definite organization with Constitution and By-laws. No appropriate form could be found so a committee was appointed and after receiving much advice from various sources a Constitution and By-laws was drawn up and accepted. This seemed to serve the purpose of such an organization as we had in mind and in such form that with very few alterations, the association may be duly incorporated under the laws of New York State.

Copies of this Constitution and By-laws are available for distribution to organizers in New York State who may desire to consider a similar organization for their own community. This constitution gives the details of operation of the association in such a way that it will be entirely unnecessary to tire you with them in this paper.

Since the adoption of the Constitution and By-laws the Association has been organized according to its pro-

visions, with such alterations as were thought desirable considering the fact that the Ithaca Association is under the direct supervision of the Poultry Department of the college.

DETAILS OF OPERATION

Soon after the producer's association began operations it was found that for the routine work of receiving and handling the eggs, picking chickens, looking after retail sales, answering telephone calls, keeping records of receipts and sales, and other similar

If the lot consists of poultry all previous lots are placed to one side or in the cooler before work is begun on any new lot and a tag is placed with each lot of dressed birds, showing the lot number so the grader and packer can give credit due to each producer for the quality of the birds which he brings in. This credit is allowed upon two more Sales Room Record sheets, duplicates of the "receipt" sheet originally given to the producer. When the grader finishes his work on any particular lot he

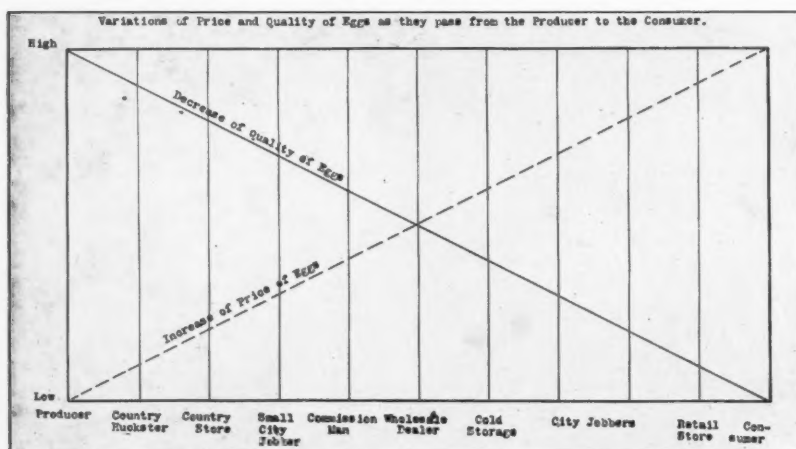


FIGURE I.—EVERY TIME THE EGGS ARE HANDLED THEIR COST IS INCREASED WHILE THEIR QUALITY IS LOWERED.

duties, women were more satisfactory than men. Women are now employed for much of the work.

When the eggs or poultry are brought in by the producers a receipt bearing a serial number is immediately given showing the name and address of the producer, the amount received, date, name of person delivering goods to the receiver and name of receiver. This serial number is the lot number for this particular lot of eggs or poultry and a tag bearing this number is securely tacked to each package of the lot. This tag identifies the contents of the packages, no matter where they may be found.

completes the other two copies of the Sales Room Record Sheets, with the amount of each grade of poultry brought in. The total of the birds in the several grades must check with the total which was noted on the "receipt" sheet of the same lot. The more common grades of poultry received during August, are: Fowls, First quality; Second quality; Broilers, Fancy, two pounds or more apiece; First, one and a quarter to two pounds apiece; Seconds, less than one and a quarter pounds apiece, or second quality; Thirds, very poor quality.

If the lot consists of eggs, it is immediately placed in the candling

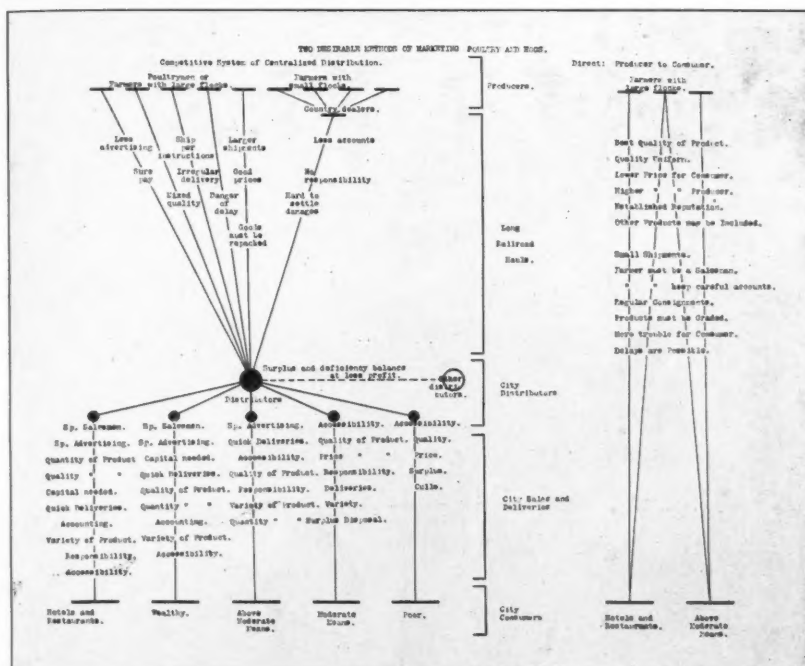


FIGURE 2.—THE VARIED REQUIREMENTS FOR A GOOD MARKETMAN ARE HERE ILLUSTRATED. ONLY FEW FARMERS FIND IT BEST TO TAKE THE EXTRA TROUBLE OF DEVELOPING A PRIVATE RETAIL TRADE

room, which is cooled by means of ice placed upon a rack in the upper part of one end of the room. This room will usually be at a temperature of 60 to 70 degrees F. and is found to be better for very short holding, than a lower temperature, because any possible sweating and consequent dampness is avoided. These eggs are then candled, as soon as possible, and at the time of candling are divided into the following grades; Clean Fancy, 2.1 oz. or more, very fresh; Dirty Fancy; Clean Firsts, 1.8 oz. to 2.1 oz., fresh; Dirty Firsts; Seconds, second quality and under 1.8 oz. but still of marketable size; checks, cracked; loss eggs, rots, blood clots, meat spots, grass eggs, etc. Each grade of eggs found in the same lot must bear a tag with the lot number upon it; the eggs then go to the packer who has a

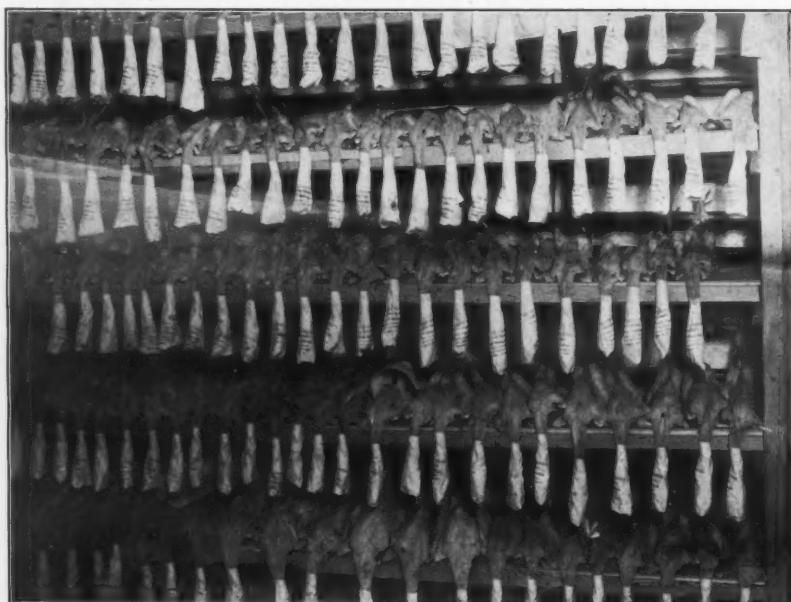
collecting sheet upon which he can rapidly note the number of eggs of each grade for any particular lot. From this sheet the total number of eggs packed must be checked with the total number of eggs marked upon the original "receipt" sheet. All Dirty Fancies, and Dirty Firsts, are cleaned before packing, no Seconds are cleaned. The packer further separates the Browns, Fancies and Firsts, from the white eggs, as these are sold to different customers. The packer then fills in the two other sheets the same as for the poultry, the producer receiving different prices for each of the different grades.

METHODS OF PAYMENT

When the association started it was undertaken to make returns on the basis of a certain number of days after

the receipt of the eggs and each individual lot was calculated separately. It was immediately seen, however, that this would soon mean a very complicated system and one involving a great amount of labor with many opportunities for mistakes. It was necessary to pay at some regular intervals, and it has been found possible to pay on the 1st and 15th of each month. All products received

ing the 15 days period, instead of paying for each lot according to the market quotations for that particular day. The checks are mailed to the patrons and with each check is included the Sales Room Record for each lot brought in by that producer during the half month period. Nearly all the farmers are cleaning their own eggs as they can do it more cheaply than the Association. The Associa-



ONE CORNER OF THE ARTIFICIALLY CHILLED ROOM WHERE ALL POULTRY IS TAKEN IMMEDIATELY AFTER KILLING AND PICKING. HERE IT IS COOLED, GRADED, WRAPPED AND PACKED.

from the 1st to the 15th inclusive, are paid for on the first of the following months; all products received from the 15th to the 31st inclusive are paid for on the 15th of the following month. This is an average wait of three weeks, from the time the eggs are received. This has given the association enough reserve fund so it has been able to carry the monthly hotel bills without much difficulty.

The method of calculating returns has been further simplified by averag-

tion buys poultry boxes and second-hand egg cases in large lots; some farmers supply their own egg cases.

MISCELLANEOUS MATTERS OF MANAGEMENT

After about a month of operation we found that it was much more satisfactory to prepay all express charges. We then deal with the local agent only and it is an easy matter to check over the monthly statement and get refunds for any

over-charges. When the receiver paid the charges, he always charged back to the association the same amount that he paid the express company. If this was an overcharge the association had to file a claim with the express company. The company would pay the refund to the receiver and then the association would have to see to it that they themselves obtained this refund from the receiver. The association was continually having trouble with overcharges until it started to prepay charges and since then there has not been one claim. It was also found advisable to try out the various express companies to see which gave the earliest deliveries, which gave the roughest handling, and which had the most courteous deliverymen.

If very much dressed poultry is to be shipped it is almost necessary to get refrigerator express service for this. The association is able to avail itself of this service at no extra cost when the individual probably could not. Be sure to keep the eggs out of the refrigerator cars, as they will sweat too much.

When very many helpers are hired it was found advisable to put all possible operations on the piece work basis. In this way there is no lost time for the association and it is quite an incentive to fast work. By a careful supervision careless work can be easily noted and the worker corrected.

SUB-COLLECTING STATIONS

Because of the fact that the Poultry Producers' Association of Ithaca is under the direct supervision of the Poultry Department of the College it is necessary that the products be brought to the Poultry Building to be handled. The Poultry building is unfortunately located at the top of a one and one-half mile haul up a steep hill so it is very inconvenient for the patrons from the opposite side of the city to bring their products to the building. For this reason arrangements were made with a transfer

company to have eggs and poultry left at their stables from which they are delivered regularly to the Poultry Building and the cases returned, for a low charge. In this case the transfer man must give a receipt for the eggs and is credited when he leaves them with the association clerk.

As soon as the egg production began to drop off in the late spring the association began sending a wagon out on a regular route once a week to collect eggs and poultry from those who did not have enough to pay to bring them to the Poultry Building or Transfer Office. It was found that one horse and an express wagon could do the work very economically. This makes hauling cost about one cent per dozen for the eggs and one cent per pound for the poultry. This route is working so satisfactorily that at least two more will be established very soon. In this way the benefits of the organization will be made available to most of the farmers within a distance of ten miles from Ithaca.

FACILITIES FOR HANDLING POULTRY

The Poultry Producers' Association of Ithaca is perhaps especially favored in having a modern refrigeration plant available for chilling and holding the dressed poultry. This is quite necessary if much poultry is to be handled although at first ice refrigeration may be used very satisfactorily. In other localities, perhaps arrangements could be made with some already established refrigeration plant. Arrangements must also be made for holding live poultry while waiting to be killed. This should consist of a series of coops convenient to the killers or better yet, have these coops upon trucks and wheel them in from an adjoining room as needed. Everything should be kept absolutely sanitary, and all by-products such as feathers and blood should be saved. These items amount to considerable to an association handling large amounts of products. At the Ithaca Association a record is kept of the patrons promising to send in live

poultry for future killing; this makes it possible for the patrons to telephone to the office and learn just when to bring in their birds, when to begin starving them, etc.

PRESENT STATUS AND FUTURE PROSPECTS

At the present time there are about 100 patrons supplying eggs or poultry to the association and this number will be considerably increased when the new routes are established. The returns have been liberal and yet during the five months that the association has been in operation a very satisfactory reserve fund has been accumulated. This reserve fund will be held and as it increases dividends will be rendered in proportion to the value of the products which the individuals have sold through the association.

It is planned that at the end of each month each patron shall receive a sheet showing the months business of the association and comparing the patron's percentage number of eggs of the various grades with the average percentage of all of the patrons. This will show the patrons whether his eggs are relatively poorer or better than the average and will serve as a very strong educational feature.

Form letters are sent to the patrons

giving them directions along various lines such as caring for their flocks, fattening the cockerels or preparing their eggs. These tend to keep up the interest in the organization itself as well as in the financial benefits to be derived by sending the products to it.

The Poultry Producers' Association of Ithaca is working satisfactorily as a unit. As soon as the Poultry Department is sufficiently assured of the success of this association it is hoped that other similar associations may be established in other parts of the state. These various Poultry Producers' Associations working together may then be able to handle larger contracts and to give better service to the trade than could any single association.

This Association is now in its infancy. It is being improved every week and must continue for at least a year before it can be called a success in any sense of the word. It has been established under New York State conditions and planned with the idea of meeting New York State needs. The Association will be very glad to have visitors look over its methods of operation and suggestions for improvements are always welcome. For further information readers may address the Poultry Producers' Association of Ithaca, N. Y.

EGG LAYING CONTESTS

By George A. Cosgrove

WHEN we consider the importance of the poultry industry as one of the great food supplies of the country, and the universal distribution of poultry throughout all parts of the country, it is really remarkable that the practical "Yankee" has been satisfied all these years to devote his attention to poultry shows where the markings on the feathers was the highly important point and

utility had little or no consideration. That a fowl should be valuable if it had feathers on its middle toe, and of comparatively little value if it didn't may look all right from the fancier's point of view, but from the utility man's standpoint, it looks like rank nonsense. But it is just such useless fads American breeders have been working on for years. Of course we all knew that there were egg laying

contests in Australia and in England, but for some unaccountable reason, no one started such a contest in this country, so far as I am aware, until the *Philadelphia North American* persuaded the authorities of the Connecticut Agricultural College at Storrs to join with them in holding such a contest.

The result has been a surprise to all concerned. The interest in the contest which the general public has taken, was not anticipated by anyone. No one expected that the newspapers, city dailies, and country weeklies alike would give reports of the contest each week but they were compelled to do so by the interest of the public in the results. Probably no event has happened in a hundred years that has so stimulated interest in poultry keeping.

The performance of different breeds under precisely similar conditions as to housing, feeding, care, etc., has radically changed the ideas of many poultrymen, and the demonstration of the great difference in laying ability of certain strains or families of the same breed, has shown the value of careful selection and breeding for utility purposes. Wherever egg laying contests have been held for a number of years in succession, each year has usually shown an increased number of eggs laid by the leading pens; the world's record being held by Australia, with an average for the six birds in the leading pen of 264.8 eggs in one year.

Egg laying contests have been held in England for years, sometimes for the winter months only, sometimes for the entire year. The desire to win at these contests with the valuable advertising that winning carries, has led to more trapnesting, more care in mating, more keeping of records, and as would naturally follow, an increased egg production. The evidence of this is clearly shown by the performance of the English birds in the contest at Storrs. Mr. Edward Cam's White Wyandottes from England have outlaid all the American White Wyandottes, while Mr. Tom Barron's White Leghorns are 150 eggs ahead of any American bred pen of any breed and at the contest at Mountain Grove, Missouri, are 256 eggs ahead of any other pen of any breed. For the first time in the history of poultry keeping in America fowls bred for utility alone are sold at prices that compare with those obtained by the fancier. One of Mr. Barron's White Leghorns at the Storrs contest has laid 250 eggs in ten months, and the average for the five birds is over 217 eggs apiece, in the ten months. The third egg laying contest at Storrs will commence November 1st. It is proposed to put ten birds in a pen this year and the entrance fee will be the same as before, \$25, which means that a breeder can get ten birds trap-nested for a year and a certified record of the eggs laid and food consumed for \$2.50 apiece.



THE CORNELL DAIRY HERD

By Professor H. H. Wing

THERE are important and interesting historical connections in relation to improved livestock and the present site of the College of Agriculture. The original "University Farm" now all included in the campus was a part of the large holdings of land owned in the neighborhood by the founder of the University. Mr. Cornell, quite a time before the founding of the University had established and become very much interested in a herd of Short Horns, then practically the only improved breed of cattle in the United States. His herd was among those of note in New York State and about 1865 he sold for export to England the young bull, 3rd Lord of Oxford, 4958, for \$3000 in gold.* This bull before Mr. Cornell owned him was the sire of the famous 8th Duchess of Geneva that sold for \$40,600 at the New York Mills Sale of 1873 at which sale Mr. Cornell is noted in the press reports as one of the important interested spectators though the sale occurred only a few months before his death. It should be an incentive to us of the present day to remember that before Cornell University was founded or perhaps more than even vaguely thought of, Mr. Cornell was actively engaged in improving the live stock industry of the state, a labor which still occupies so large a part of our efforts and in which there is abundant room for further advancement.

Very little information is available as to the earliest developments of the herds on the University farms. There were improved animals in the college herds probably from the very outset and it is known that at least a few pure bred animals were in the first herds but no appreciable progress was made and no permanent policy adopted until Professor Isaac Phillips Roberts became the head of the De-

partment of Agriculture in the University in 1873. At this time interest in dairy husbandry was beginning to develop in the state and the present leading dairy breeds, notably Jerseys and Ayrshires, were beginning to come into general public notice. Professor Roberts came to Cornell from the middle west and had seen and taken part in the introduction of the Short Horn and the consequent improvement of beef cattle on the fertile plains of the corn belt but he soon recognized the importance of a breed especially adapted for dairy production under eastern conditions. He had foresight enough to see that the general introduction of improved working dairy animals capable of greater production would be through the mating of purely bred bulls of a distinctively dairy type upon common cows and through their grade descendants developing herds of higher and more uniform productive capacity. A third fundamental principle was the recognition of the importance of systematic records of production as a basis not only for the selection of animals capable of present profitable production but also for breeding purposes. Acting upon these ideas the College herd was founded and has ever since been maintained, though now for many years purely bred animals have gradually replaced grades.

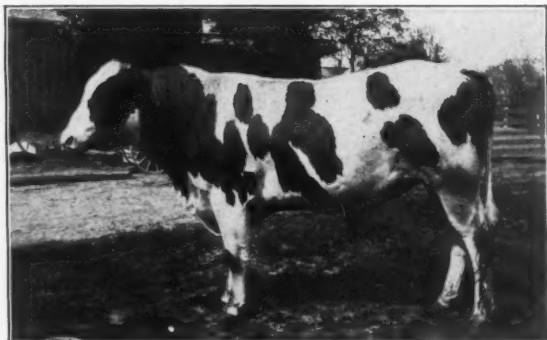
Systematic effort to improve the herd was begun by Professor Roberts in 1875. He had already determined by actual weighings that the herd, largely composed of as good native and common cows as could be purchased in the neighborhood, was producing at a rate not to exceed 3000 pounds of milk per cow per annum. Holstein cattle were at that time almost unknown though a few herds had been established as early as 1860. By 1875 there were probably less than 500 purely bred Holsteins in the country almost entirely in New England and

*Allen—"History of Short Horns," p. 223.

New York. Professor Roberts has left no record as to the way in which his attention was called to this breed but in 1875 he purchased of Mr. W. W. Chenery of Belmont, Mass., the young bull, Sixth Earl of Middlesex, 156, born June 21, 1874. Mr. Chenery was the first importer of Holsteins to the United States and the sire and dam of this bull were both of Mr. Chenery's original importation. There are three descendants of Sixth Earl of Middlesex in the College herd at the present time so that they in person through their pedigrees epitomize the history of the breed in this country. Very few animals, grade or pure bred,

inferior. Since then the improvement has been more largely in increased uniformity than in actual increase of production.

The writer assumed charge of the herd in 1889 and beginning in 1891 after the Babcock Test had been invented, systematic records of both milk and fat production have been kept and in 1892-3 a record of the cost of food was kept as well. The results of that year's work were published in bulletin No. 52 of the Agricultural Experiment Station and show an average yield of 7240 pounds of milk per cow per annum, or an increase of 108 per cent in seventeen



EARL
KORNDYKE
DE KOL
24954.

The most impressive sire used in the herd. He now has 56 A. R. O. daughters and 11 sons that have sired A. R. O. daughters.

at the present time can be traced to the "original Chenery importation."

From 1875 to 1889 the policy begun in 1875 was continued. Continuous records of milk production were kept and they were used as a basis for selection but many of the original sheets having been lost the actual records were never published. The herd was a comparatively small one ranging in number from fifteen to twenty and occasionally supplemented by outside purchases of common or native stock. In the first cross one-half-blood heifers were raised from nearly all the cows in the original herd and almost without exception were much superior to their dams in milk production. In the second generation, as was natural, less improvement was secured and a few were distinctly

inferior. Since then the fluctuations in production are well shown in the following table, for though some purely bred animals were introduced about this time, the principles of breeding and selection have not been materially changed.

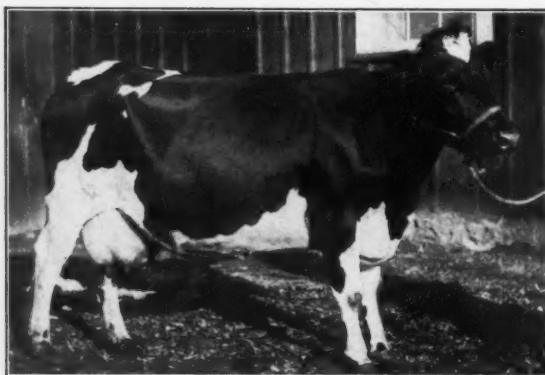
Year	No. of cows	Milk, pounds	Fat, pounds
1892-3	20	7240	285.6
1893-4	20	7470	289.3
1894-5	19	7370	280
1895-6	17	7600	274
1896-7	19	7685	276
1897-8	19	7561	278
1898-9	19	7697	282
1899-1900	22	7128	264.7
1900-1	15	7671	291.8
1901-2	14	6638	256.4
1902-3	16	8037	284.5
1903-4	24	7652	296.4
1904-5	23	8004	290.5
1905-6	22	6580	245.6
1906-7	34	6822	257.3
1907-8	37	6773	268.7

Year	No. of cows	Milk, pounds	Fat, pounds
1908-9	37	7463	302.5
1909-10	43	8161	334.5
1910-11	41	8228	334
1911-12	43	7400	307
1912-13	50	7396	286

In the progress of development the sires used have of course played a most important part. These sires were for the most part rather carefully selected though in no case were extreme prices paid and the cost of several was quite moderate. The following is a complete list of the Holstein sires used with the date of their birth.

of the ten fruitful bulls was therefore almost four years. Of the ten, Van Horn and Dutch Hengerveld Korndyke were the least successful though each left some good daughters. All things considered, Earl Korndyke De Kol was the most impressive as a sire though the 1st, 3rd, 4th, 6th, 10th and 11th all proved very useful animals.

It is often urged against the use of pure bred bulls that the first cost is prohibitive and the results are uncertain. It is not known what was paid for the first three bulls but the other eight cost from \$50 to \$350 each and



RUBY
¾ HOLSTEIN.

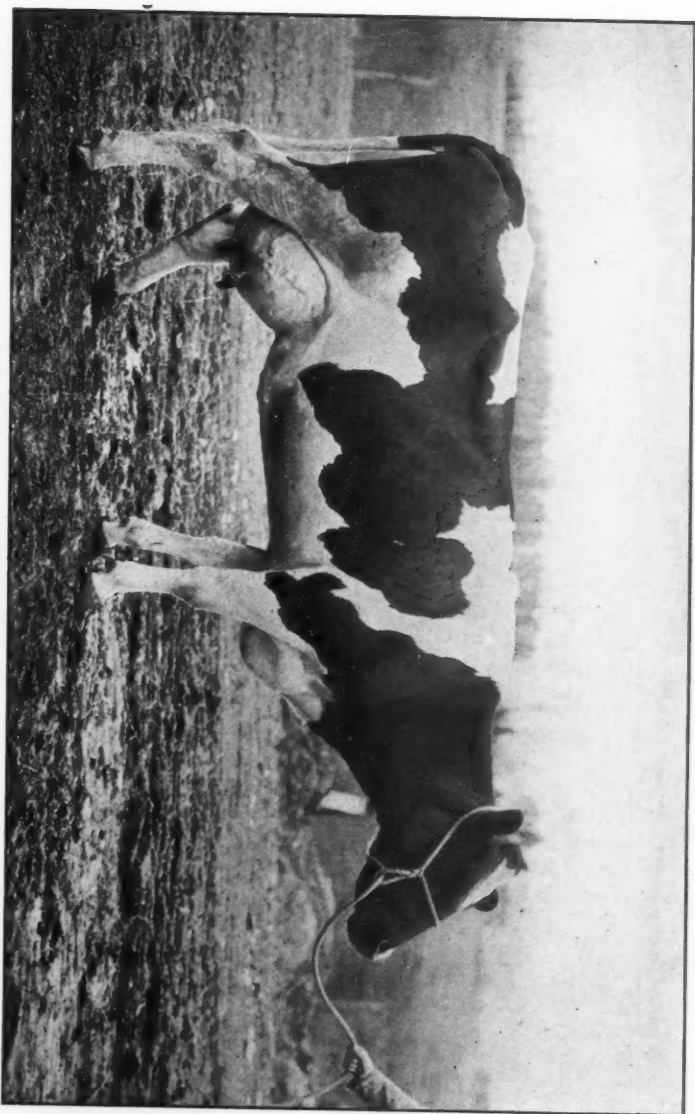
One of the early large producers in the herd. She was sired by Robinson Crusoe. She gave birth to nine calves and in nine years produced 96,800 pounds milk and 3814 pounds of butter or a yearly average of 10700 pounds of milk and 424 pounds of butter.

- 1 Sixth Earl of Middlesex 156, born June 21, 1874
- 2 Van Horn 361, born March 2, 1878
- 3 Robinson Crusoe 1471, born April 3, 1882
- 4 Netherland Remus 6276, born July 8, 1887
- 5 Netherland Statesman's Excelsior 19036, born December 17, 1891
- 6 Sir Beets DeKol 21422, born March 26, 1894
- 7 Earl Korndyke DeKol 24954, born November 28, 1897
- 8 Dutch Hengerveld Korndyke 31155, born December 27, 1901
- 9 Small Hopes Korndyke DeKol 32260, born January 21, 1903
- 10 Prince Ybma Spofford 6th 47135, born December 21, 1906
- 11 Woodcrest Pietje Ormsby 54909, born September 5, 1908

It will thus be seen that in the 39 years 1875-1913 inclusive, eleven sires have been in the herd. Of these one, Netherland Statesman's Excelsior, died before leaving any offspring in the herd. The average approximate life

the average was a little less than \$150 each. When it is considered that seven of the ten fruitful bulls were decidedly successful as breeders, that the other three were by no means failures, and that the average period of usefulness was four years, the moderate investment of \$150 each may be considered to have given good returns and to be within the reasonable expectation of anyone starting out on a line of similar improvement.

In 1878, Professor Roberts visited Holland and selected for Mr. Howard G. White, of Syracuse, a small herd of pure bred Holsteins. Afterward about 1883, he purchased a single heifer from Mr. White, the granddaughter of one of the cows of the original importation. This cow was called Dena. She was not a large producer and not a prolific breeder. In 1889 when the



GLISTA ERNESTINE 117999.
The best cow yet produced in the herd. As a junior four year old she produced 24,410 pounds of fat in seven days; 98,948 pounds fat in 30 days and in 36 weeks has produced 503 pounds of fat.

writer took charge of the herd a single granddaughter of Dena, a two-year-old heifer, known as Glista 7857, sired by Robinson Crusoe was the only descendant of Dena and the only pure bred Holstein in the herd. She was not very prepossessing in appearance, rather coarse in bone and heavy and masculine in general appearance. She proved to be rather unproductive but she produced three heifer calves in succession, each sired by Netherland Remus. Glista and her daughters were not as productive as the grade three-quarters and seven-eighths bloods that made up the larger part of the herd at this time. It seemed, however, to be desirable to work into purely bred animals. Available funds were low and the policy was adopted of raising all the pure bred females, keeping them in the herd even though they were not as productive as some of the grades until their capabilities were thoroughly tested, seeking to improve the stock as rapidly as possible through the influence of the sire. At first progress was quite slow; an undue proportion of males was born, Glista 3rd producing three bull calves in succession and no heifers and Glista 4th producing four bull calves before her first heifer was dropped. When the bull Sir Beets DeKol was purchased his daughters showed the first marked improvement among the purely bred animals and following him, Earl Korn-dyke DeKol gave a marked impetus to the productive capacity through the seven or eight daughters which he left in the herd. Since that time, the herd has increased rapidly in numbers and improved in general productive capacity. The course of this improvement is well shown in the following table:

Year	No. of cows	Milk, pounds	Fat, pounds
1889-90	1	5023.	172
1890-91	1	4505	155
1891-2	2	6490	213
1892-3	None		
1893-4	1	8266	293
1894-5	2	5899	217
1895-6	2	8193	264
1896-7	2	9557	309
1897-8	2	8689	275
1898-9	2	9396	291

Year	No. of cows	Milk, pounds	Fat, pounds
1899-1900	3	8662	287
1900-1	4	8848	292
1901-2	4	7233	255
1902-3	6	9342	322
1903-4	7	9377	331
1904-5	9	9549	325
1905-6	11	7682	265
1906-7	18	7343	254
1907-8	19	8276	292
1908-9	21	8415	300
1909-10	24	9068	324
1910-11	25	9297	334
1911-12	15	8679	304
1912-13	14	9497	328

Not all the later born animals have shown uniformly good qualities. There have been a number of "weeds" but these have been eliminated from the herd and their number is not larger than would normally be expected in any course of breeding. In the table on page 49 the relationship of all the individuals in the family is shown in the line of female descent, together with the length of time they remained in the herd and their average yield in pounds of fat per year during the time they were in the herd. Those marked with a star are at present members of the herd; most of them young and many of them will undoubtedly increase their present record. The figures, however, are given as of present date for the sake of making the table as complete as possible.

The influence of the sires on the development of the herd is of course of great importance. The improvement has undoubtedly come largely through the sires and in the table above there is no indication of this. It is difficult to give any indication of the influence of the sires other than by giving a list of their daughters with the production of each and the average production which is shown in the table below.

Sired by Netherland Remus	Fat, pounds
Glista 2nd.....	188 lbs.
Glista 3rd.....	252 "
Glista 4th.....	274 "
Av.	238 "
Sired by Sir Beets DeKol	
Glista Beta.....	309 lbs.
Glista DeKol....	303 "
Glista Alpha.....	294 "
Av.	302 "

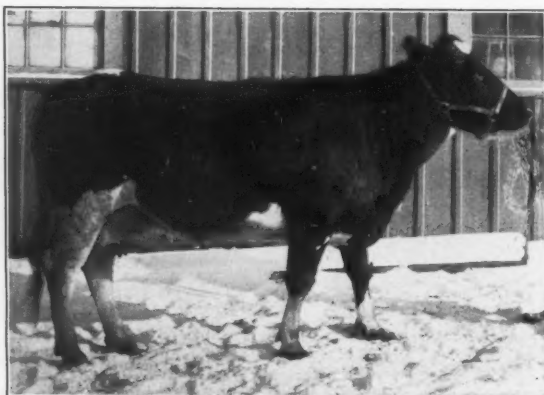
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Sired by Earl Korndyke DeKol

Glista Delta	348 lbs.
Glista Theta	302 "
Glista Eta	327 "
Glista Epsilon	312 "
Glista Lambda	292 "
Glista Gamma	336 "
Glista Iota	381 "
Glista Nu	317 "
Glista Mu	285 "
Av.	323 "

Sired by Small Hopes Korndyke DeKol

Glista Carlotta	299 lbs.
Glista Psi	345 "
Glista Candida	259 "
Glista Coriander	233 "
Glista Corinne	253 "
Glista Chi	281 "
Glista Eloise	283 "
Glista Eleanor	286 "
Glista Omega	309 "
Glista Francesca	322 "
Glista Eva	270 "
Av.	285 "



GLISTA 7857.

The original cow of the Glista family. Note her coarse and inferior appearance in comparison with her descendants Glista Cora and Glista Ernestine.

Sired by Dutch Hengerveld Korndyke

Glista Rho	301 lbs.
Glista Xi	180 "
Glista Sigma	341 "
Glista Omicron	359 "
Glista Tau	255 "
Glista Pi	198 "
Glista Phi	231 "
Glista Upsilon	163 "
Av.	254 "

Sired by A. & G. Netherland Piebe DeKol

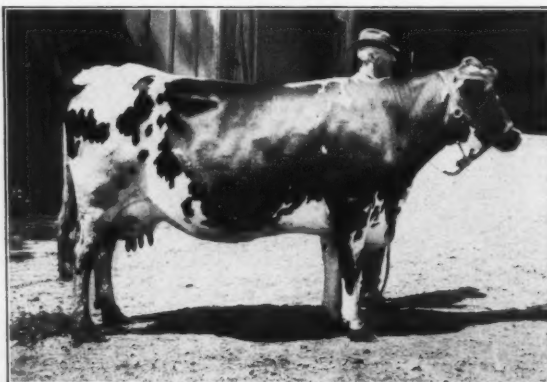
Glista Alpha 2nd	204 lbs.
Glista Echo	338 "
Glista Ebony	304 "
Av.	282 "

Sired by Prince Ymba Spofford 6th

Glista Cora	413 lbs.
Glista Coreva	223 "
Glista Dora	239 "

PRESS
7/8 HOLSTEIN.

One of the best looking cows ever bred in the herd. She was also a large producer. Her best yearly record was 11900 pounds of milk and 345 lbs. of fat. She also was sired by Robinson Crusoe.



Glista Duchess.....	220 lbs.
Glista Draba.....	298 "
Glista Ernestine.....	377 "
Glista Eglantine.....	264 "
Glista Flora.....	207 "
Glista Elora.....	310 "
Av.	283 "

Jerseys were introduced into the herd about 1885. The bulls used have been Cornell Valentine, a son of Ramapo; Cornell Exile, a son of Exile of St. Lambert; Marvel's Pogis, a descendant of Emma's Pearl; and Onan's Count third. The present sire, Blue Belle Experimenter, a gift of the State Experiment Station at Geneva, descended through the herd of Mr. George W. Sisson, from an imported cow, Blue Belle, is as good a representative of the breed as has ever been in the herd.

Guernseys were first introduced in 1903, but they have not been remarkably prolific. The present herd bull, Ledyard's Warwick, is a full brother of Otto W. Post's cow, Azucena's Pride 2nd, the champion of her class

(two and a half and four years) in the Advanced Registry of the American Guernsey Cattle Club. Her record is 856 pounds of butter fat in one year.

In 1905, it was thought wise to introduce the so-called Dairy Short Horns and two cows and a heifer were purchased from the herd of Innes and May, of Pennsylvania. Afterward a bull, Frederick Clay, was purchased from the same herd. The descendants of these animals have proved prolific and quite productive, particularly the cow, Lady Clay 3rd, to which attention is called. The present herd bull, Royal Oxford, bred by Horace W. Avery, is descended from the best milking strains in Vermont.

The last additions to the herd have been Ayrshires, which were introduced in 1911, largely from importations made directly from Scotland by Mr. F. S. Peer, of Ithaca. One of the cows comes from the noted producing herd of S. S. Karr and Son, of Alleghany County.

THE EFFECTS OF FERTILIZERS OTHER THAN THAT OF ADDING PLANT FOOD

L. L. Van Slyke

New York State Agricultural Experiment Station, Geneva, N. Y.

WE ARE recently coming to understand that the application of a fertilizing material to the soil may, and usually does, do much more than furnish plant-food. What we may call secondary effects take place, and these often influence the chemical, physical and biological conditions of the soil and, therefore, the crops in a way not expected. Many of these secondary changes have received little recognition in these practical relations. It is true that the effects of organic matter upon soil structure, warmth, water-holding power, modification of availability of mineral plant-food compounds, and activity of micro-orga-

isms has been well recognized in agricultural practice; and the same is true also of the influence of calcium (lime) compounds. It is, however, less true of special chemical compounds, such as are commonly used in commercial fertilizers, among which for illustration we can mention sodium nitrate, ammonium sulphate, superphosphate, potassium chloride, potassium sulphate, etc. We will now consider in detail some typical cases which will illustrate the subject of this article.

Sodium nitrate (often called nitrate of soda) serves excellently to furnish an example of the secondary effects

of fertilizing material upon soils. In using this compound, the purpose is, of course, application of nitrate nitrogen, which is taken into the plants during crop growth; but the sodium is mostly left behind in the soil and is not inert. This sodium residue may be beneficial in its action and it may be injurious. We will consider (1) its beneficial action, (2) its harmful action and (3) its effect on soil acidity.

Beneficial action. The sodium nitrate has the power of exchanging places with potassium in certain insoluble potassium compounds, resulting in the formation of a soluble potassium compound. In many clay soils, this action may be so extensive that application of sodium nitrate furnishes all the available potassium required for crops, and this latter constituent can in such cases be omitted from the fertilizer applied, so long as the soil continues to contain an abundance of potassium compounds that can be rendered available in this way.

Injurious action. When sodium nitrate is used continuously and extensively on a soil for a series of years, it may destroy the granular or crumb structure. This effect is due to the sodium residue left in the soil. This residue combines with carbon dioxide in the soil water to form sodium bicarbonate, which possesses a strong deflocculating power, causing the soil grains or crumbs to fall apart into very fine particles. Under such conditions, a soil puddles badly, if worked when wet, and after rain dries into hard unmanageable lumps, seriously reducing the crop producing power of the soil. If this condition continues, the finest material of the soil is gradually removed in the course of years, and the crop producing power decreases also. Such a condition while difficult to remedy, can be most effectively changed by the application of some material that is already acid or capable of combining with and changing the alkaline sodium bicarbonate into some harmless compound. Acid phosphate, ammonium sulphate and calcium sulphate (gyp-

sum) are effective in thus changing the sodium bicarbonate. Basic substances such as a calcium carbonate (ground lime), calcium hydrate (slaked lime), etc., should never be applied under these conditions because they will only make a bad matter worse.

Effect on soil acidity. Sodium bicarbonate resulting from the use of sodium nitrate neutralizes acids and prevents a soil becoming acid. It will, therefore, save loss of calcium carbonate in the soils. It may be said, in addition to the effects already mentioned, that sodium nitrate renders insoluble calcium phosphate more easily soluble.

Ammonium sulphate, tends to render a soil acid, an action just the reverse of that of sodium nitrate. The ammonium is changed to nitric acid leaving as a soil residue, free or uncombined sulphuric acid, which combines with the calcium carbonate present in the soil. With long-continued use of ammonium sulphate on soils, the calcium carbonate is gradually used up and there then results an acid soil. The simplest remedy for this condition is the application of either calcium carbonate or hydroxide. The condition can be prevented by keeping in the soil a good supply of ground limestone or by using sodium or calcium nitrate or cyanamid along with ammonium sulphate.

Superphosphates. In these materials we have two different chemical compounds to consider, the soluble or acid calcium phosphate and the calcium sulphate (gypsum). In the case of the calcium phosphate, it is sooner or later utilized by the plant and if any residue is left in the soil, it is calcium, which becomes carbonate under normal soil conditions. The residual gypsum of the acid phosphate may have several different effects on the soil; at least this is true theoretically. The one of most interest here is the tendency to have free sulphuric acid in the soil, which is rendered harmless when the soil contains enough calcium carbonate. In the absence of such basic materials, gypsum ultimately makes an acid soil. Super-

phosphates have gained the reputation of producing "sour soils" and the popular explanation has been that it was due to the soluble phosphate, which is known to be an acid salt, while in reality it is due rather to the calcium sulphate present in the superphosphates.

Potassium chloride and sulphate. In soils containing an abundance of calcium carbonate, the free hydrochloric and sulphuric acids left in the soil, after the potassium has been taken into the plants, will be at once neutralized and rendered harmless. In many soils, an exchange takes place between the soluble potassium chloride or sulphate and compounds

present in the soil, by which the potassium is converted into less soluble forms, while the acid part (chloride or sulphate) combines with some soil constituent especially calcium and magnesium. In soils in which neither of the foregoing conditions exists, free hydrochloric or sulphuric acid may accumulate and cause an acid condition in time.

The examples given above are sufficient to illustrate the fact that in applying commercial fertilizers to the soils, some account must be taken of the effects other than those of supplying plant-food. If this is not done, not only may the applied plant-food fail to produce the desired effect but even act injuriously.

GREENHOUSE CONSTRUCTION

W. R. Cobb

COMPARATIVELY few people are aware of the tremendous improvements which have been made in the past thirty years in the construction of greenhouses, and few realize the extensive and rapid growth of the building of greenhouses as a specialty.

There are a number of firms in the United States who do nothing else, and it is owing to the specializing of this class of construction that the light and airy greenhouse structures of to-day have been evolved.

Fifty years ago the greenhouse was generally built against a high wall, with one slope of roof. The wall was on the north side and the glass roof faced the south. The roofs were constructed with a number of independent sash, supported by heavy wood rafters, and the sash glazed with glass, not over six inches wide. This form of construction was seldom tight, and the amount of wood used gave only about 50 percent of light. They were seldom heated, and if heated at all, it was by running a brick flue through the house, attached

to a hot air furnace. The results of this method of heating were far from satisfactory; one end of the house would be too warm and the other end too cool. Later, hot water and steam were introduced as heating mediums, and this opened the way for extensive improvements in the construction of the greenhouse itself, and also for an increase in size and a larger latitude in the variety and extent of same.

Mr. Lord, the founder of Lord & Burnham Company, was a great lover of flowers, and also a thorough mechanic. He became dissatisfied with the results obtained in the greenhouse which he had on his place, built with sash in the roof, and made up his mind that in order to make any advances in floral culture under glass, improvement in the construction of the greenhouse itself must be made. So he constructed a greenhouse, having a permanent glass roof; that is, in the space between the rafters, wood bars were placed, supported by purlins running from rafter to rafter, and then the glass placed between the bars. He also arranged



ILLUSTRATION OF OLD GREENHOUSE WITHOUT ANY GLASS IN SIDES OF HOUSE.

a mechanical device for operating the sash used for ventilating at the ridge. The results obtained in this type of house were so far ahead of anything then known, that his services were soon in demand, and from that time on improvement, both in the construction and shape of the greenhouse, was rapid, until today we have the cobwebby structure.

The roof was made curved, which gave the plants on the side of the house more headroom. Later, the sides of the houses were increased in height, two feet of glass being placed between the top of the plant beds and the gutters. This allowed the roof to be made straight, instead of curved, which reduced the cost. As improvement in construction continued, ranges of glass or several greenhouses united in one, began to be built and today there are a large number of ranges on private estates, where almost any variety of flowers, vegetables, and fruit can be grown.

Up to about thirty-five years ago, the sills, rafters, and purlins; in fact, all parts of the superstructure were built of wood. As the desire for wider and more permanent houses increased, the greenhouse designers and builders began to look around for better materials. At about this time steel and iron had begun to be used in general building, and to these metals the builders turned their attention. Cast iron sills were substituted for wood; steel rafters, and purlins took the place of the cumbersome wooden ones, and throughout, wood was replaced with metal as far as possible.

In this climate to secure a tight greenhouse roof, all the year round, it is necessary to have all glass rest on wood. As yet, there has been no other satisfactory method invented. While wood is still used, it has been possible to greatly diminish the size of the members, owing to the fact that the steel and iron members furnish the desired strength, and with

proper care the superstructure of a greenhouse should last indefinitely.

In proper construction the steel rafters and purlins are exposed only to the inside temperature of the house, thus insuring freedom from contraction and expansion. This principle adopted thirty-five years ago has been, and is to-day the base and fundamental principle of all first class construction.

From time to time the size of the glass used, has been increased: First, 6 inch, then 8 inch, 10 inch, 12 inch, 14 inch, 16 inch and 24 inch. Today glass 16 inches and 24 inches wide is used almost exclusively. As far as growing qualities are concerned, there is no choice between the 16 inch and 24 inch; the 16 inch gives less trouble in glazing.

Today there are several constructions on the market. They vary only in details. All constructions are based on the principle of using steel and iron as a support for the wood roof, bars, sash, etc. It is in the details that the endurance, stability, etc. lie. It is well to look carefully into these details, and also into the sizes, etc. of the steel members. It is not a difficult matter to build a green-

house that will stand a few years; the thing is to get one that will be good twenty-five or thirty years, with a minimum of repairs.

The lines and shape of the roofs have also undergone many changes, until today three standard shapes are used almost exclusively, viz.: the straight roof, having cast iron gutters at the eave line; the curved roof, which varies only from the gutter line; the curved eave roof, being straight until it about reaches the side walls where it is curved sharply to meet the glass on sides of house. In this case, a combination cast iron sill and gutter caps the masonry walls. This type of roof is particularly adapted to localities having heavy snows, as having no obstruction at the eave line, the snow readily slides from the roof.

Glass has also improved in quality, and today double strength "A" quality is standard. If glass is over 16 inches wide, what is known as 26 ounce should be used. "B" glass, except in rare cases is avoided.

The plant benches used were at first made entirely of wood; then a combination of steel and wood; and



ILLUSTRATION OF A MODERN RANGE OF GREENHOUSES, CONSISTING OF CURVED ROOF PALM HOUSE, AND CURVED EAVE WINGS

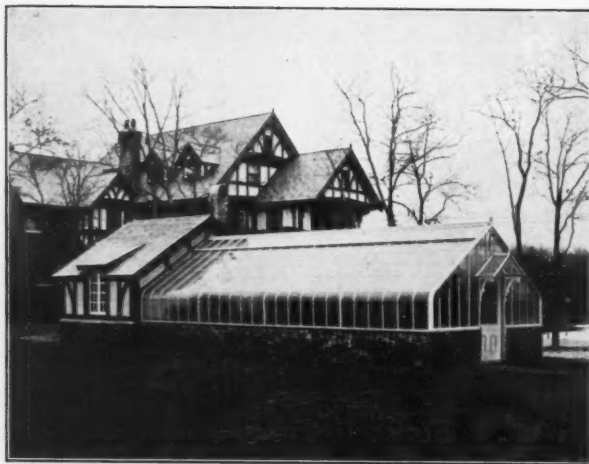


ILLUSTRATION
OF MODERN
SMALL
GREENHOUSE
WITH
CURVED EAVES

now we have the plant benches with galvanized steel frames, terra cotta bottoms, with slate or wood sides. A plant bench constructed entirely of cast iron is on the market. This is the most durable and presents a neat appearance.

At first greenhouses were not heated. They were simply used to enable one to have fruit and flowers a little earlier and a little later than could be grown outside. After a short time, stoves were placed in the houses; then brick flues built, running the length of the house, through which hot air, generated in a furnace was carried. Both of these methods were unsatisfactory, but were much better than no heat of any kind. Finally a system of pipes through which hot water circulated,

was adopted, and this has continued to be used to the present day. While there has been a great improvement in the arrangement of the pipes, fittings, and valves, the original principle of circulating hot water by gravity, still remains and has proved the best heating medium, not excepting steam, for plant life.

Brick, stone, or concrete are suitable for foundation walls. Brick was the material formerly used. Today, concrete, plastered with a light colored cement is more extensively used. It makes a cheap wall, and at the same time presents a neat appearance.

Walks constructed of concrete, finished with cement, make ideal walks, and these have been used continuously for thirty years.



ADDRESS DELIVERED TO DIRECTOR BAILEY ON JULY 31, 1913, BY MEMBERS OF FACULTY THEN IN CITY

"ITHACA, N. Y., July 31, 1913.
Professor L. H. Bailey,
Director of the New York State Col-
lege of Agriculture.
Dear Friend and Colleague:

We come as representatives of the Faculty of Agriculture to express the regrets of this Faculty that you are about to retire from the position of Director of this College.

The Faculty would have come in a body to bring this message, for every member of it shares these regrets, but it was felt that a less formal procedure would be more acceptable to you. Still we could not let this day pass without expressing to you our feelings.

The present successful condition of this College is due to the combined efforts of many earnest men and women devoted to the cause of agricultural education; but every one of these workers realizes that the opportunity for doing this work in so successful a way is due more largely to your efforts than to any other cause.

The confidence which the people of the State have in you is the chief cause of the magnificent material support that has been given the College.

Your breadth of view in organizing and administering the College has enabled your colleagues to work in a much more efficient manner than would have been possible under less wise leadership.

You have laid the foundation of a broad College of Agriculture and have built on this foundation an institution that stands forth as an ideal of what a College of Agriculture should be.

The practical phases of agricultural education are well cared for. Instruction in the sciences upon which intelligent agricultural practice must be based is provided. Opportunity for

original investigation is offered, and the means of publishing the information obtained is well systematized.

Not only are the needs of the students that come to the College provided for; but through the extension department and the coöperation of members of the staff with that department any tiller of the soil in need of help can obtain the best available information.

This is the kind of institution that you have organized and brought to a high degree of efficiency.

We wish that it were possible for us to continue to work under your wise leadership. But we are sure that your influence will remain with us; that we shall continue to try to realize the ideals that you have established. The momentum obtained is so great that the institution is bound to continue its work along the lines laid out by you.

We know that your work here has not been an easy task; that there has been much to trouble and perplex you. But the head of a college never had a more loyal and devoted following in his faculty than you have had.

And while you are to leave us for the sake of a freer life, do not think we are jealous of what takes you away from us. Although we are borne down by the sense of our loss and the loss of the College, every heart rejoices that you are to have what you have longed for during these years when you have been fettered by administrative work.

We shall hope that you will keep us close to you as friends, though we may no longer be colleagues, and that through our sympathy with your ideals we may proudly share your future work."

The Cornell Countryman

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NOVEMBER, 1913

Save December 5th.

This is a red letter day at the College of Agriculture.

There are three events which the College of Agriculture cannot afford to lose. They give to the college an atmosphere. They are the Assemblies, Farmer's Week and the Agricultural Banquet.

There are many people who ask whether we have not paid the penalty of rapid growth in losing what is extremely valuable, an intimate personal touch with our faculty and with each other which gives the relation of neighbors in an ideal rural community. A pretty good answer to this question is the Agricultural Banquet. One is liable to forget such obstacles at a gathering which has all the advantages of a barn warming or a grange picnic but is a little better than either.

This year the banquet will be just as attractive as of old. There are some upperclassmen as well as all the Freshmen who have never been at an Agri-

cultural Banquet. It is something you cannot afford to miss. When you have pulled your chair away from a square meal seasoned with laughter and music to hear an imposing row of speakers, even the grouchiest man in the college will admit that it is good to be there.

The University and the College of Agriculture

Considerable discussion has arisen recently concerning the relation of the College of Agriculture to the University. The College has been accused of segregation from the rest of the University and consequent non-participation in University activities.

There is truth in the statement that we are segregated to a certain extent. But there are two points which we wish to emphasize. The first point is that the College of Agriculture was created to serve the farmers of New York State. There is a great work that must be done apart from the University which accounts for many of our non-university activities. The second point is that the rest of the University has not encouraged the students of this college to enter into University activities. We question whether the attitude of the students at the college of Agriculture is seriously at fault.

The *Sun* which started the discussion has seemed to adopt the very laudable policy of giving more space to the College of Agriculture. We look forward to a time when the students at the college are more active in University activities not only for the good of the University but for their own development and when the University as a whole fully realizes the high ideals and accomplishments of the College of Agriculture.

**Former
Student
Notes**

We have been much disappointed with the scarcity of replies to our letters asking for former student notes.

We were hoping that our Former Student column would be stronger than we can make it now with so little material. The trouble lies with nine out of ten former students. Each of them is glad enough to read of what the others are doing but does not realize that he ought to send in his own notes. Whether you are a subscriber is not the point. Send them anyway.

**The Annual¹
Fruit Show**

The Annual Fruit Show of the Department of Pomology will be given on November 6, 7, and

8th. It will be composed of fruits in season, mainly apples. Last year there were 125 varieties of apples and two of pears. All the fruit growing regions in United States will be represented.

There are two purposes of these shows. One purpose is to afford students an opportunity to be familiar with the different varieties and the variations in the variety when grown under different conditions. Another purpose is to demonstrate to the public the practical nature of the work given to students. The show is put up by the students and the varieties are judged by them.

To those who are not familiar with these shows it is sufficient to say that they are models for shows of their sort and have a fine educational value.

AMYNTICHUS

Dear Earth, Amyntichus the aged take
Unto thyself; mindful how for thy
sake

He toiled so much. For all his life, in
thee

He planted seedlings of the olive-tree
Ofttimes with vine-slips, too, did he
adorn

Thy hillsides and thy valleys fill
with corn;

And, leading streams of water here and
there,

Made herbs and fruitage plenteous
everywhere.

Round his gray brows, then, do thou
softly cling,

And put forth tender grasses of the
spring.

From the Greek Anthology. (Trans.
by G. S. B.)



CAMPUS NOTES

On Thursday, October 2, Acting Director Stocking spoke to the students of the College at the monthly Assembly. Among other things, he called attention to certain facts in regard to the college. He said that the total number of students registered to date is 1342 as against 1168 at the same time last year, giving a total increase of 174. These figures do not include graduate students since it is not yet possible to ascertain from the records the registration of the graduate students. He gave a brief sketch of Director Bailey's early life and of his work since coming to Cornell University in 1888. He called attention to the phenomenal growth of the College of Agriculture which has taken place under the leadership of Director Bailey. In 1903, when Professor Bailey was made Director, the College of Agriculture was housed in a portion of Morrill Hall and the old dairy building, which is now a portion of the north wing of Goldwin Smith Hall, and in the old horticultural greenhouses on the present site of the new athletic field. At that time there were 252 students in the College of Agriculture with nine persons on the faculty above the grade of assistants. At that time there were four departments in the college as against twenty-four at the present time. It was pointed out that this material development in equipment and teaching facilities is a fine tribute to Director Bailey's ability as an organizer and administrator. His ability as an educator is shown by the great increase in

the number of the teaching staff and student body, which numbered last year more than two thousand. The Acting Director called attention to some of the qualities which have contributed to Director Bailey's great success and urged the students to study his life and follow it as an example of untiring devotion to productive work. The attention of the students was called to various matters in connection with the College of Agriculture and the development of various portions of its work. The status of the new buildings was discussed, as was also the various student organizations and activities in the College of Agriculture. The students were urged to affiliate themselves actively with some student organization which would give them an opportunity to develop themselves in lines of work which they could not secure in the class-room. They were urged to cultivate the habit of making good use of their time as a foundation for a useful productive life. The Acting Director called attention to the splendid spirit existing in the student body in the College of Agriculture and hoped to see this spirit continue unabated. He called attention, however, to the fact that the College of Agriculture is an integral part of Cornell University and emphasized the importance of the students recognizing their relation to the university as a whole. He said, "while we are proud of the spirit of loyalty and devotion in our student body, we do not want to separate ourselves from the rest of the university."

With the rapidly increasing number of students and the large number and variety of student activities now existing in the College of Agriculture, we should not forget our close relations with the university as a whole." He hoped the students would take an active part in university activities as well as in the activities of the College of Agriculture.

* * *

One of the independent departments which separated from the old department of Horticulture, and which will take up its work this fall, is the Department of Floriculture. Professor Edward A. White will be in charge of the work, while Dr. Alvin C. Beal, former head of the department, will do investigational work. The New York State Legislature recently appropriated \$30,000 which will be used in constructing a new greenhouse, and in extending the old ranges. The new range will be designed especially for roses, although it is likely that other floricultural experiments will be carried on there. The houses now occupied by the Departments of Vegetable Gardening, Soils, Plant Breeding, and Plant Pathology will each be extended twenty-five feet. The commencement of work on these houses is only awaiting the approval of the state architect. The study of floriculture has been growing in importance during the past few years and the new department has been established to meet the popular demand. At a recent meeting of the State Florists an appropriation of \$75,000 was asked for, to carry on investigations.

Professor White, the new head of the department, comes from Amherst where for six years he was engaged in instructional work at the Massachusetts State College of Agriculture.

* * *

Professor Tenny, in charge of the Farm Bureaus in New York State now has eighteen men working on county bureaus throughout the state. This farm bureau work, which takes

scientific agriculture direct to the door of the farmer, is being directed from Professor Tenny's office at the College of Agriculture. The New York State Department of Agriculture and the United States Department of Agriculture are coöperating with Professor Tenny in this very important work, and much practical good has already been accomplished.

* * *

Miss Annette J. Warner has been appointed Assistant Professor in the Department of Home Economics to introduce a course in Decorative Design which aims to teach art as applied to every-day living.

Miss Warner was formerly Assistant Principal and Director of the Department of Art at Rogers Hall School, Lowell, Mass. She has held important teaching positions, including the supervisorship of drawing in Pittsfield, Mass., directorship of the Art Department of the State Normal School, Fitchburg, Mass., principalship of the John Herron Art Institute School of Art, Indianapolis. She has had broad training in art in the art schools of this country and abroad; possesses rare qualities as a teacher and is preëminently fitted to occupy the position she now holds.

* * *

The girls' club has already secured \$575 towards the fund of \$1000 which they propose to raise by the beginning of next term for the new club house. It is hoped that this club house will be placed on the girls' campus at the rear of the Home Economics Building. It is intended to be used for holding meetings and for purposes of recreation. Officers for the first semester are: President, Claribel Nye; Vice-President, Grace Chapman; Treasurer, Lucia Burbank; Club Historian, Natalie Thompson; Life Secretary, Elizabeth F. Genung.

* * *

A new Hubbard portable oven with a capacity of 240 one-pound loaves has been installed in the cafeteria. The baking surface is of heavy tile.

The inside of the oven is lighted by an electric light which works automatically whenever the door is opened.

The cafeteria is now conceded to be the best equipped of any place of its size in the country. Vegetables and soups are cooked in steam cookers in the most modern approved method. All machinery is run by electricity including a cake-mixer, bread-mixer, food chopper, potato-parer and dish-washer.

* * *

Following out a suggestion which originated in the present senior class, a number of out-of-town speakers have been secured to speak at our monthly assemblies. Arrangements have been made for the following dates:

November 14—Professor Claxton, U. S. Commissioner of Education.

December 4—L. H. Bailey.

January 9—Hon. J. W. Wadsworth, Mount Morris, N. Y.

February 27—Joseph E. Wing, of Ohio State University.

March 26—H. W. Foight, from the Agricultural Department at Washington, D. C.

Sometime in the spring, date not yet decided, Dean Davenport, of the University of Illinois.

* * *

Prof. Ross announces that several important repairs are being made in the Dairy Department. The separator room is being replastered, and a stairway is being cut from the bacteriological laboratory to the room immediately below. This room is to be converted into a sterilizing and washing room to relieve the congestion in the laboratory above.

* * *

Mr. K. P. Schmidt, from Lake Forest College, Illinois, is one of the new members of the faculty. Mr. Schmidt has recently spent six years on a farm in Northern Wisconsin, and comes as an assistant to Dr. Needham in the new Farm Course which proved so successful last year. He studied under Dr. Needham before the latter joined our faculty. Mr. Schmidt is also studying in the Arts College for his A.B. degree.

Three new men have been added to the instructing staff of the Extension Department. They are: George A. Everett, Assistant Professor; Cass W. Whitney, '13, Instructor; Montgomery Robinson, Assistant.

Professor Everett comes from the College of Arts and Sciences. Mr. Whitney was elected to the faculty after his graduation in June, and Mr. Robinson is a graduate of Princeton and is taking work at Cornell for an advanced degree.

* * *

At the last regular meeting of the Senior class, the following were elected officers for the coming year: President, L. E. Card; Vice-president, Miss G. G. Bristol; Secretary, M. C. Wilson; Treasurer, J. G. Wilkin; Rep. to Agricultural Association, E. S. Bird; Members of Honor System Committee: D. Alleman, L. E. Card, M. F. Abell.

* * *

The outlook for a successful soccer season this fall is encouraging. Of the team of last year only five have come out this fall. While this necessitates a complete team reorganization yet there are enough capable men on the field to make competition for the places keen. There are seven forward line men of experience in the game competing for five positions. The back-field situation is identically the same. Agr. has more material on the job than any other of the colleges and has put in a third more practice than the nearest competitor.

* * *

During the summer the old poultry plant was moved to its new quarters at Forest Home. Last year the University purchased the 30 acres north of and adjoining the Hasbrook farm, so that at present the Poultry Department has 80 acres with which to perform its many experiments.

* * *

Due to the new ruling in the College of Agriculture that no new student can enter the college with any conditions, at least fifty students were turned away. Nevertheless the registration of all students reached 1342, an increase of 174 over the same date of last year.

FORMER STUDENTS



F. S. JACOBY

'06, B.S. in Agr.—Professor Freman S. Jacoby graduated from Ithaca High School in 1906 and entered Cornell the following year. He specialized in Poultry Husbandry and during his senior year was student assistant in that department, also was a member of Hebs-sa, President of the Poultry Association and Agricultural Cheer Leader. Immediately after graduation Mr. Jacoby went to Kansas State Agricultural College as Instructor in Poultry Husbandry. The following year he went to Ohio State University as Instructor and the next year was promoted to Assistant Professor. Since going to Ohio State he has been actively connected with the poultry affairs of the state as Director of the Ohio State Poultry Association and was a member of the Board of Advisers of the first egg laying contest held at Mt. Grove, Mo.

Professor Jacoby has conducted extensive experiments in cooperation with the Veterinary Department on the practicability of the use of a serum for the prevention and cure of roup. During the past summer he has been connected with the Bureau of Chemistry as assistant in poultry and egg investigations. He also devoted con-

siderable time to an educational campaign in Missouri in an effort to improve Missouri eggs.

The authorities at Ohio State turned to Cornell for the selection of instructors for their Poultry Department and from the alumni they chose Professor Jacoby because of his natural qualifications. With the means at his disposal he has accomplished splendid results at Ohio.

'89, B.S.A.—Hoxie W. Smith, who has been seventeen years with Borden's Condensed Milk Company in Wisconsin and Illinois, is now located at 298 Bryant street, Buffalo, N. Y., with the Buffalo Gas Mantle Company.

'00, Ph.D.—Kary C. Davis, who has been Professor of Agronomy and Principal of the Short Course at Rutgers, has resigned his position and after September first will be head of the Leman A. Knapp School of Country Life at Nashville, Tenn.

'05, B.S.A.—H. W. Hochbaum has recently been placed in charge of agriculture in the Boise, Idaho, High School. This school is giving four years work in agriculture and had an enrollment of 160 during the past year. At present he has seventy acres of land which is to be increased. This will be completely stocked and run as a school farm. Three other persons are to assist in teaching agriculture. Mr. Hochbaum is also farm adviser for his county.

'05, W.P.C.—Gustav Walters is in charge of the mammoth poultry farm of the Johnston Stock and Farming Company of Marion, N. D., where he has been developing one of the largest poultry farms in the United States. Each year he has employed several of the Cornell Winter Poultry Course students, who report excellent opportunities for gaining experience.

'06, Sp.—Ernest Kelly, who is in charge of market milk investigations of the Dairy Division of the United States Department of Agriculture has just completed an investigation of the prices paid for milk to farmers supplying

26 of the leading cities of the United States during the year 1912.

'05, '06, Grad.—Paul Leslie Fairbanks, Professor at Colorado Agricultural College was in Ithaca during the latter part of September and the first of October visiting the Agricultural College.

'05, B.S.A., '07, M.S.—Dr. Robert Matheson has been teaching entomology at the Agricultural College in Truro, Nova Scotia. He now returns to Cornell to take up work in Entomological Investigation.

'07, Grad.—William Moore has recently returned from Transvaal, So. Africa where for the past three years he has been teaching entomology in the Agricultural College. He will now take up his work with the Department of Entomology at the University of Minnesota.

'07, B.S. in Agr., '08, M.S. in Agr.—N. H. Grubb has resigned his position in the Bureau of Plant Industry at Washington. He expects to take up commercial fruit growing in Kent, England. His address is 26 Avondale Road, Corydon, England.

'08, B.S.A.; '09, A.B.—Announcement has been made of the engagement of Miss Eunice Willice Jackson and Royal Gilkey. Miss Jackson is teaching in the Ithaca High School. Mr. Gilkey is supervisor of the farmers' reading course in the College of Agriculture.

'08, W.P.C.; '11, B.S.A., Iowa.—W. A. Lippincott is now Professor of Poultry Husbandry in charge of the Poultry Department at the Kansas State Agricultural College, Manhattan, Kansas.

'08-'09, Sp.—James Summer Allis died at Medina, N. Y., on September 3.

'10, B.S.A.—R. C. Lawry is attaining an international reputation as organizer and manager of one of the largest White Leghorn farms in the Middle West at Pacific, Mo.

'12, B.S.A.—David Elder, winner of the Eastman Stage in 1912, is county agricultural agent and stationed at Harwich, Mass.

'12—J. C. Feure will teach in the Agricultural College at Transvaal, So. Africa. He will probably succeed Mr. Moore in the Department of Entomology.

'13, B.S.—Allan C. Fraser, of Buffalo, a graduate of the College of Agriculture, has been given a position as instructor in horticulture and botany at Columbia University. Mr. Fraser finished at the Buffalo Central High School, before entering Cornell.

'13, B.S.—Bruce P. Jones is in the nursery business at Monroe, Mich.

'13, B.S.—H. Mills Doyle was married to Miss Miriam Foster, daughter of Mr. and Mrs. A. S. Foster, of Seville, Ohio, on August 17. Doyle is manager of the Oswego County farm bureau at Oswego, N. Y.

THE PRODUCTIVE LIFE FELLOWSHIP

THOMAS NIXON CARVER

It offers to young men days of toil and nights of study. It offers frugal fare and plain clothes. It offers lean bodies, hard muscles, horny hands, or furrowed brows. It offers wholesome recreation to the extent necessary to maintain the highest efficiency. It offers the burdens of bringing up large families and training them in the productive life. It offers the obligation of using all wealth as tools and not as means of self-gratification. It does not offer the insult of ease, or æsthetic enjoyment, or graceful consumption, or emotional ecstasy. It offers, instead, the joy of productive achievement, of participating in the building of the Kingdom of God.

Short Course Students

Should Read This Carefully

The majority of the students are buying their pennants, pillows, skins, posters, etc. for room decorations and gifts from

The A & B Novelty Stores

316 College Ave.

321 Eddy St.

C. D. ABBOTT, '15
R. B. BEAN, '15
W. W. BUCKBEE, '16 } Student Owners.

They have been well satisfied.

Why not gain this satisfaction yourself?

There are several reasons why you should give us your business:

1. OUR PRICES ARE THE LOWEST IN THE CITY.
2. OUR STOCK IS THE LARGEST ON THE HILL.
3. OUR STORES ARE CONVENIENTLY LOCATED.
4. WE AND OUR REPRESENTATIVES ARE ALL STUDENTS.

Also come to our College Ave. Store for Fountain Pens, Stationery, Card Indexes, Picture Framing, Cornell Jewelry, Drawing Instruments, Mackinaws and Sweaters, Cigars and Cigarettes.

SPECIAL

During your first week in Ithaca we offer an 18-in. x 48-in. pennant bearing the official short-course lettering for only 75c.

The Geneva Nursery Co.

A complete assortment of Hardy
Fruit Trees, Ornamental Trees,
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This Groomer is adapted to perfectly clean horses, cattle, etc. Animals groomed by the Vacuum Process are made more vigorous and can be kept in the best condition for less, as the process stimulates them, promotes the growth of hair and makes them generally cleaner and healthier. The building in which it is installed and nearby buildings can also be cleaned in **THE SANITARY WAY** by its use.

ADAPTED TO ALL KINDS OF POWER.

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We deal with merchants and farmers. We want an office man to help sell, to help advertise, to help in correspondence and to grow up to a responsible position. If he was brought up on a farm, with some scientific and newspaper training, so much the better. No bonanza in salary to begin with, but an active, interesting and basic occupation with good people and a great future depending on the man. Address, with the fullest of particulars, stating age and references, which will be regarded as confidential, "President", Box 229, Boston, Mass.



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LARGEST CAPACITIES
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The Only Practical Large Capacity Separators

Has more exclusive patented features of merit than all others—Has all the desirable points that can be put into a cream separator.

500 lbs., \$75.00	900 lbs., \$90.00
700 lbs., 80.00	1100 lbs., 100.00

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"Wyandotte" cleanliness is known the world around. It is protective. It insures milk and its products against contamination. It is the arch enemy of milk bacteria. It is the champion of purity and sanitary excellence. It is the standard of dairy cleanliness.

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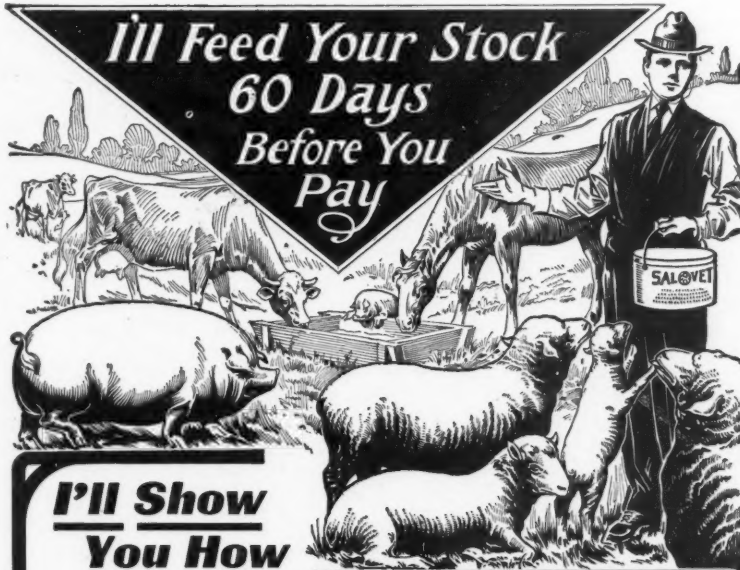
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**To make them grow faster—thrive better—look better—
Put on flesh on no more feed—stop losses from worms—**

I have done it for thousands of farmers and stockmen—I'll do it for you. All I ask is the privilege of sending you enough Sal-Vet to last your stock 60 days. I simply want to show you what a remarkable change Sal-Vet will work on your sheep, your hogs, your horses and cattle. I want to show you how it will improve their condition—rid them of all stomach and free intestinal worms which are the biggest drain on your stock profits. I don't ask a penny of pay in advance. I prove all my claims first—and if you are not satisfied at the end of 60 days, you do not pay me a cent.

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Sal-Vet is first a **worm destroyer**; second, a **conditioner**; a medicated salt. It contains several medicinal elements which promptly kill and expel stomach and free intestinal worms and in the meantime puts the digestive organs in a healthy, vigorous condition. It sharpens the appetite—tones the blood—puts life and vitality into the whole system. It aids digestion—helps the animal to derive more good from its feed.

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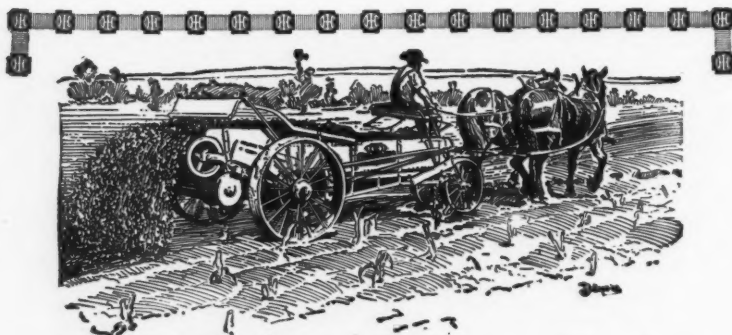
Send No Money—Simply Send Coupon If you could open and read the letters I get, voicing the appreciation of hundreds of stockmen and farmers—who have taken advantage of my liberal offer, you would not delay a minute in sending me the coupon requesting enough Sal-Vet to feed your stock 60 days, especially when I do it before you pay. Now fill in the coupon, telling how many head of stock you are feeding—mail at once. Sal-Vet costs but one-twelfth of a cent per day for each hog or sheep.

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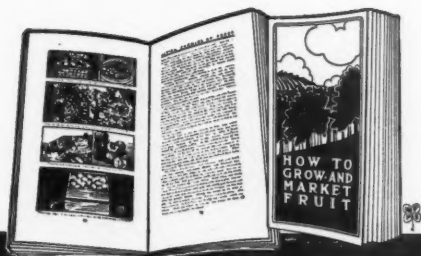
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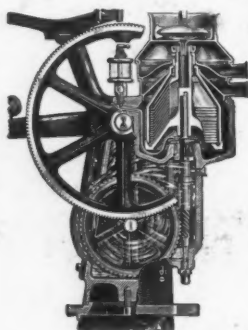
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